SCHOOL OF ENGINEERING

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

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ABOUT OUR SCHOOL

STUDY WITH US

The unique structure of our programs offers opportunities and experiences unlike any other Australian university.

Our students develop their work readiness by undertaking four core courses in professional practice. These courses develop their applied skills including working in teams, project management, sustainability and critical thinking.

They also have the opportunity to choose an elective pathway – courses in an area of interest that either complements their degree or allows them to extend into an entirely new field of study.

For example, a civil engineering student may choose four elective courses in surveying to complement their core studies, or they may choose to study a language or communications or construction management or history with their four elective courses – the choice is theirs.

ENGINEERING DISCIPLINES

- Aerospace Systems
- Chemical
- Civil
- Computer Systems
- Electrical and Electronic
- Environmental
- Mechanical
- Mechatronics
- Medical
- Mining Transfer
- Renewable Energy
- Surveying

To learn more about our School of Engineering, visit our website: newcastle.edu.au/school/engineering

OUR DISCIPLINES

AEROSPACE SYSTEMS

Aerospace system engineers are typically employed by aircraft design and manufacturing companies, Australian and international airlines, airworthiness organisations, the Australian Defence Force, the prime defence contractors, airports, maintenance, repair and overhaul (MRO) organisations.

CHEMICAL

Chemical engineers are employed in a wide range of industries. They may be involved in creating products like plastics, fertilisers, consumables, pharmaceuticals and paints. They might also work to develop fields such as environmental control, resource utilisation, minerals processing, renewable energy, waste management and recycling.

CIVIL

Civil engineers design, build, manage and oversee the operation of infrastructure. Behind each road, bridge, school, hospital, dam and so much more lies the work of Civil Engineers. You could specialise in Geotechnical, Structural or Water Engineering. Civil Engineers have a key role to play to solve the challenges society faces.

COMPUTER SYSTEMS

Computer systems engineering is flexible and diverse: focus on hands-on fieldwork, design and development, or pursue a leadership role managing people and projects.

ELECTRICAL AND ELECTRONIC

Electrical engineers are employed in utilities, industry, manufacturing, transportation, consulting services and electronic design and development. Graduates might focus on electronics engineering. They could specialise in automation and control engineering, or they may work in robotic engineering or power generation and distribution.

ENVIRONMENTAL

Environmental Engineers study the effects of human activity on the environment and solve problems associated with the quality of air and water, waste treatment, green living and sustainability, climate change adaptation, use of pesticides in agriculture, remediation and rehabilitation of sites, as well as disaster prevention. Environmental Engineers have a crucial role to play in securing a sustainable future.

MECHANICAL

Mechanical engineers design, manufacture, and test components across the medical, aerospace, automotive, electronics, and energy industries. Almost every finished part – from the shell of your mobile phone to the chassis of an aeroplane – involves mechanical engineers. Mechanical Engineers are in high demand and 92% of graduates find work within four months of completion.

MECHATRONICS

Mechatronics engineers play a crucial role in designing solutions for industries such as aerospace, autonomous vehicles, marine, robotics and manufacturing, defence, and finance. Graduates integrate mechanical, electrical, computer, and artificial intelligence systems to address the challenges of our modern world. Industry demand for Mechatronics engineers is extremely high.

MEDICAL

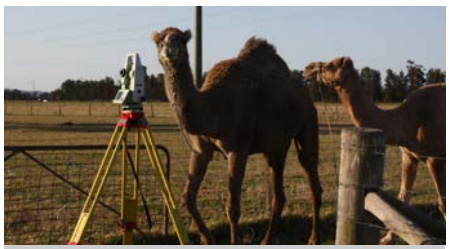
Medical engineers are involved with the design, development, testing and implementation of safe and effective technological solutions for the health and medicine industry. Depending on their area of specialisation, a medical engineer could work with: biomechanical devices, surgical equipment, nanotechnology, prosthetic limbs, artificial organs, and more.

MINING TRANSFER

Mining engineers are responsible for safe operations of mines. Mining of minerals such as copper, nickel or lithium is essential for the transition towards renewable energies. These metals and others are needed to build batteries, solar panels, wind turbines and more. Mining engineers have a role to play for a greener world.

RENEWABLE ENERGY

Highly qualified engineers with specialities in renewable energy are required worldwide in order to tackle climate change. That, in addition to community concerns about wind energy affordability and security, has driven government and organisations to seek engineers with expertise in the field of renewable energy.



SURVEYING

Surveyors measure, collect and analyse spatial data. They are responsible for the quality of the land titles data that supports almost every aspect of the economy. Surveyors measure and map the oceans and the land using manned and unmanned aircraft and water craft, satellites and a vast array of digital measurement technologies.

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